



**EL31/2003 HEAZLEWOOD
TASMANIA
CONTACT CREEK PROJECT**

**FINAL REPORT
27th March 2013 – 31st August 2014**

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SUMMARY

Exploration Licence 31/2003, located in NW Tasmania, is currently held by Bass Metals Ltd but from 2009-2014 was held in Joint Venture with Venture Minerals Ltd.

Exploration activities since 2009, on what remains of the original exploration licence, have resulted in four proposed target areas for Sn-W mineralization:

- Mt Youngbuck, a previously identified and drilled (Aberfoyle, 2 drill holes) amphibole + pyrrhotite + magnetite skarn with patchy scheelite mineralization. Venture's work indicates the surface extent of the deposit is just outside of the eastern boundary of EL31/2003 but it is quite likely the skarn dips into EL31/2003.
- Contact Creek Sn & W Anomaly 1, low-level (up to 47 ppm Sn & 38 ppm WO₃) stream sediment may reflect presence of contact skarn(s), but follow-up sampling suggest small veins and greisens within the Meredith Granite are the most likely sources.
- Cu Anomaly 1, a north trending c. 500 m by 100 m +120 ppm Cu soil anomaly, peaking at 249 ppm, which coincides with an interpreted fault between the Success Creek Group and Crimson Creek Formation immediately adjacent to the Meredith Granite just north of the Whyte River. The anomaly is closely associated with calc-silicate (mainly pyroxene) alteration, and the copper anomalism may indicate the presence of a more constrained Sn and/or W skarn.
- Cu Anomaly 2, a small cluster of Cu (up to 308 ppm) and V (up to 560 ppm) anomalous soils within the Success Creek Group c. 1.5 km north of the Meredith Granite. The V association is not considered encouraging for Mt Lindsay type Sn-W mineralization.

Venture significantly reduced its exploration budget in 2013 and chose to withdraw from the joint venture with Bass on EL31/2003 in March 2014. Bass has now decided to concentrate on its Mt Read Volcanic tenements and relinquish EL 31/2003.

1. INTRODUCTION

This report is the final on exploration activities conducted on the Heazlewood Exploration Licence 31/2003 and covers the period 27 March 2014 to 31 August 2014. The tenement originally covered 135 km² and was claimed by Pioneer Nickel Ltd (“Pioneer”) because it encompassed a large ultramafic complex, considered prospective for Avebury-style nickel mineralisation. Pioneer joint ventured EL31/2003 to Bass Metals Ltd (“Bass”) in 2005, who continued to focus exploration efforts on Ni-sulphide mineralisation until 2009. A 34 km² partial relinquishment was conducted during the 4th year of tenure reducing the licence area to 101 km², then in 2009 Bass joint ventured the iron, tin and tungsten rights within EL31/2003 to Venture Minerals Ltd (“Venture”). Pioneer’s interest in EL31/2003 reduced to a 2% Net Smelter Royalty. Venture focussed on finding Sn-W-magnetite skarn and carbonate replacement deposits adjacent to the margin of the Meredith Granite. EL31/2003 was reduced to 22 km² in 2011, and then reduced again in 2013 to 14 km² as it now stands.

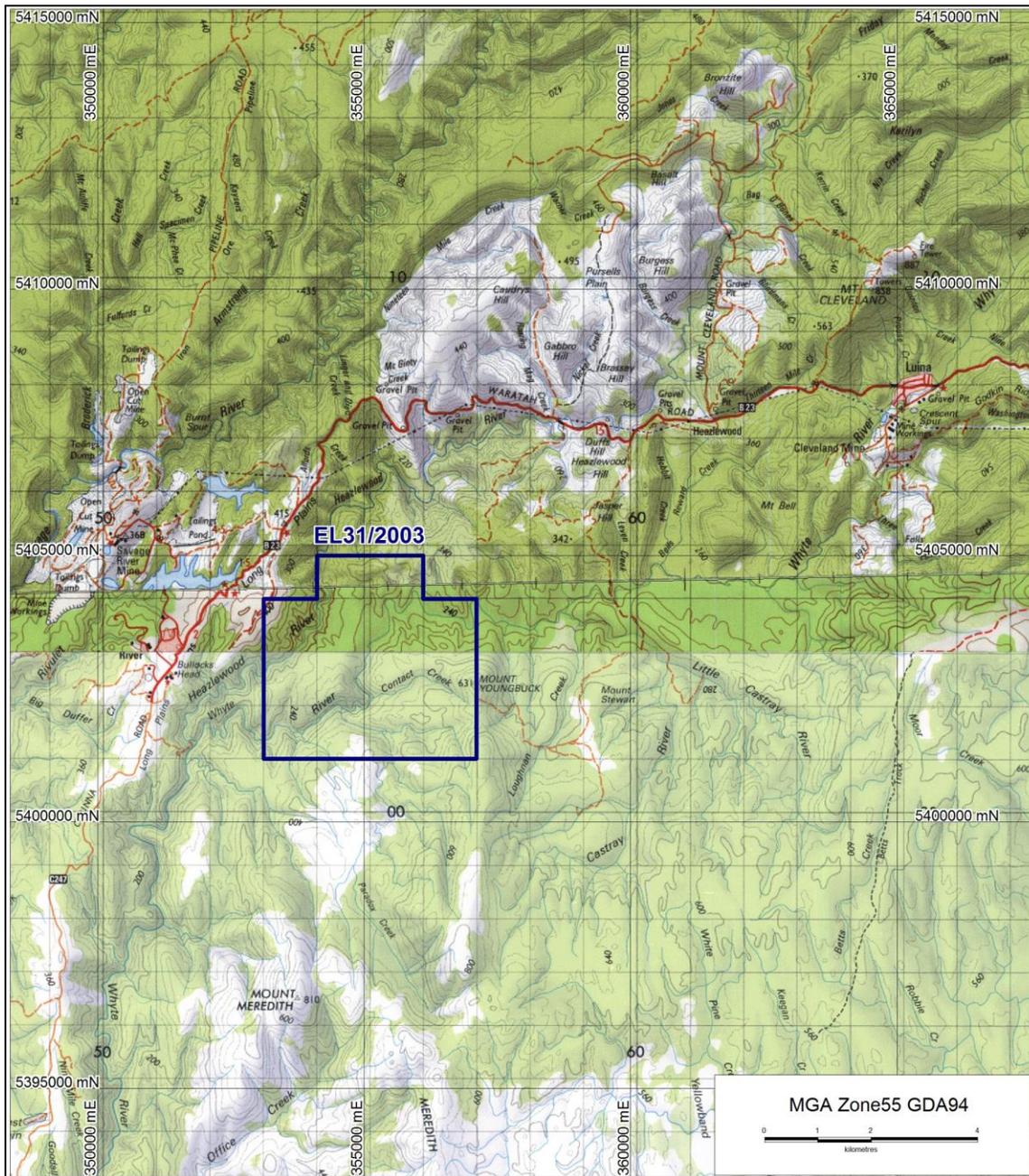
1.1 Location

Exploration Licence 31/2003 is located approximately 25 km west of the township of Waratah in the north-west of Tasmania (Figure 1). The licence area can be found on the Savage River 1:25,000 topographic map sheet and the Arthur River 1:100,000 map sheet.

The terrain is hilly with deeply incised Whyte and Heazlewood river gorges, elevation ranges from c. 100 m AHD in the depths of the Whyte River gorge at the western edge of the licence to 631 at Mt Youngbuck in the east and c. 700 m in the southeast at the northern end of the Meredith Range. The licence area is heavily vegetated with widespread *Nothofagus* rainforest with lesser zones of *Eucalyptus nitida* and *Eucalyptus obliqua* especially in fire regrowth areas.

Ground access to the eastern part of the licence can be made via the sealed Waratah Road to the start of the Mt Stewart 4WD track approx. 6 km west of Luina, then by ATV for >10 km past Mt Stewart and across the Whyte and Castray rivers to the base of Mt Youngbuck, then on foot. The western part of the tenement is most efficiently accessed by helicopter, and three helicopter landing pads were established north of the Whyte River in 2011.

Figure 1 : EL31/2003 location plan



1.2 Geology Overview

From west to east the basement geology of EL31/2003 consists of three main geological units the Oonah Formation, overlain by the Success Creek Group followed by the Crimson Creek Formation; the units are intruded by the dolerites and later intruded by the Meredith Granite

(Figure 2). In the north-east of the tenement the basement consists of the Heazlewood Ultramafic Complex. This interpretation is based on a combination of historic and VMS geological mapping.

Heazlewood Ultramafic Complex, Early Cambrian Ultramafics

In the early phases of the Tyennan Orogeny, the east-facing Tasmania passive margin collided with an oceanic arc, resulting in the obduction of mafic-ultramafic complexes across much of Tasmania. The original shallow-dipping geometry of the allochthonous sheets has been substantially disrupted by later Cambrian and Devonian deformation, so that the present surface occurrences are typically steeply dipping and fault bounded. Three ultramafic-mafic rock associations are commonly in fault juxtaposition within the complexes: layered Pyroxenite-Dunite, layered Dunite-Harzburgite and layered Pyroxenite-Peridotite and associated Gabbro (Seymour *et al*, 2006).

Crimson Creek Formation

The Crimson Creek Formation represents a correlate of the Upper Neoproterozoic-Lower Cambrian Togari Group sedimentary and mafic volcanic succession. The group can be subdivided into four main phases of sedimentation; a lower dolomitic succession with basal siliceous conglomerate-sandstone, a phase of mafic rift volcanism and associated volcanoclastic sedimentation, renewal of shallow-marine carbonate sedimentation, and at the top, a Cambrian phase of deep-water siliciclastic sedimentation (Seymour *et al*, 2006).

Success Creek Group

The Neoproterozoic – Early Cambrian Success Creek Group is not as conspicuously deformed as the Oonah Formation, and four formations are generally recognised, comprising a basal conglomerate with sandstone lenses, overlain by quartz sandstone with minor siltstone and conglomerate (Dalcoath Formation), then black mudstone, siltstone and minor quartz sandstone, and finally siliceous siltstone, red chert and mudstone with minor quartz sandstone, conglomerate and dolomite (Renison Bell Formation, Brown, 1962).

Oonah Formation

The Oonah Formation is a thick, polydeformed Proterozoic quartz wacke turbidite succession, widespread in western Tasmania. The formation comprises of two lithological associations. The dominant quartz wacke turbidite association, which includes minor alkaline dolerite intrusions

and lavas, consists of interbedded quartz sandstone, quartz wacke, siltstone and pelite. The secondary lithological association is predominately pelite and/or carbonate including mafic volcanics and conglomerate in some places. Near Zeehan this association is host to a number of Devonian vein, skarn and replacement-tin deposits, and at Mt Bischoff a dolomitic unit hosted major Devonian tin lodes (Seymour *et al*, 2006).

The Meredith Granite

World-class tin and tungsten ore bodies, as well as many lead, silver, gold, zinc, copper and bismuth deposits of different styles, are genetically and spatially related to the emplacement of high-level Middle Devonian to Early Carboniferous granitoids in Western Tasmania. The major bodies are the Husetop, Granite Tor, Grassy, Dalcoath, Meredith, Heemskirk and Interview granites, and these include both I and S types. Styles of mineralisation associated with the Devonian granitoids include stratabound carbonate replacement cassiterite-massive sulphide, silicate and magnetite skarns, and disseminated and vein deposits.

Economically, the stratabound carbonate-replacement cassiterite-massive sulphide mineralisation forms the most important Devonian ore type, with major deposits at Renison Bell (26 Mt at 1.46% Sn), Mt Bischoff (10.54 Mt at 1.1% Sn) and Cleveland (12.4 Mt at 0.62% Sn, 0.25% Cu) (MRT Report, 2005).

Tertiary Basalts

Radiometric dates from basalts across Tasmania indicate an age range of between 16.4Ma and 64.5Ma (Everard *et al.*, 2004).

1.3 Exploration Rationale

EL31/2003 was initially claimed for Ni-sulphide exploration in the Heazlewood ultramafic complex, which made up the central third of the original tenement. Due to the close proximity of the Meredith Granite to the ultramafic complex, the potential for Avebury-style metasomatic Ni mineralisation was considered high. Bass Metals focussed on exploration for nickel until 2009 but no significant mineralisation was discovered.

From 2009 Venture Minerals directed exploration towards finding Mt Lindsay-style skarn mineralisation around the Meredith Granite contact, and over the years, EL31/2003 has been reduced to reflect this exploration focus. The dolomite units within the Success Creek group and the calcareous sandstones within the Crimson Creek Fm adjacent to the Meredith Granite were Venture's targets for skarn or carbonate replacement Sn, W and magnetite mineralisation.

2. REVIEW OF PREVIOUS WORK

Details of exploration on areas of the Heazlewood Licence which have previously been relinquished are described in Bates, (2008 -2012).

For the retained area, which is the subject of this report, field programs were conducted over five consecutive summer field seasons, from 2009 to 2013. Stream sediment, soil and rock chip samples were collected over geophysical and stratigraphic skarn targets, adjacent to the contact of the Meredith Granite, together with geological mapping and remote sensing interpretation. The detailed results of this work is described in Bates, (2009-2012) and Joughin (2013-2014).

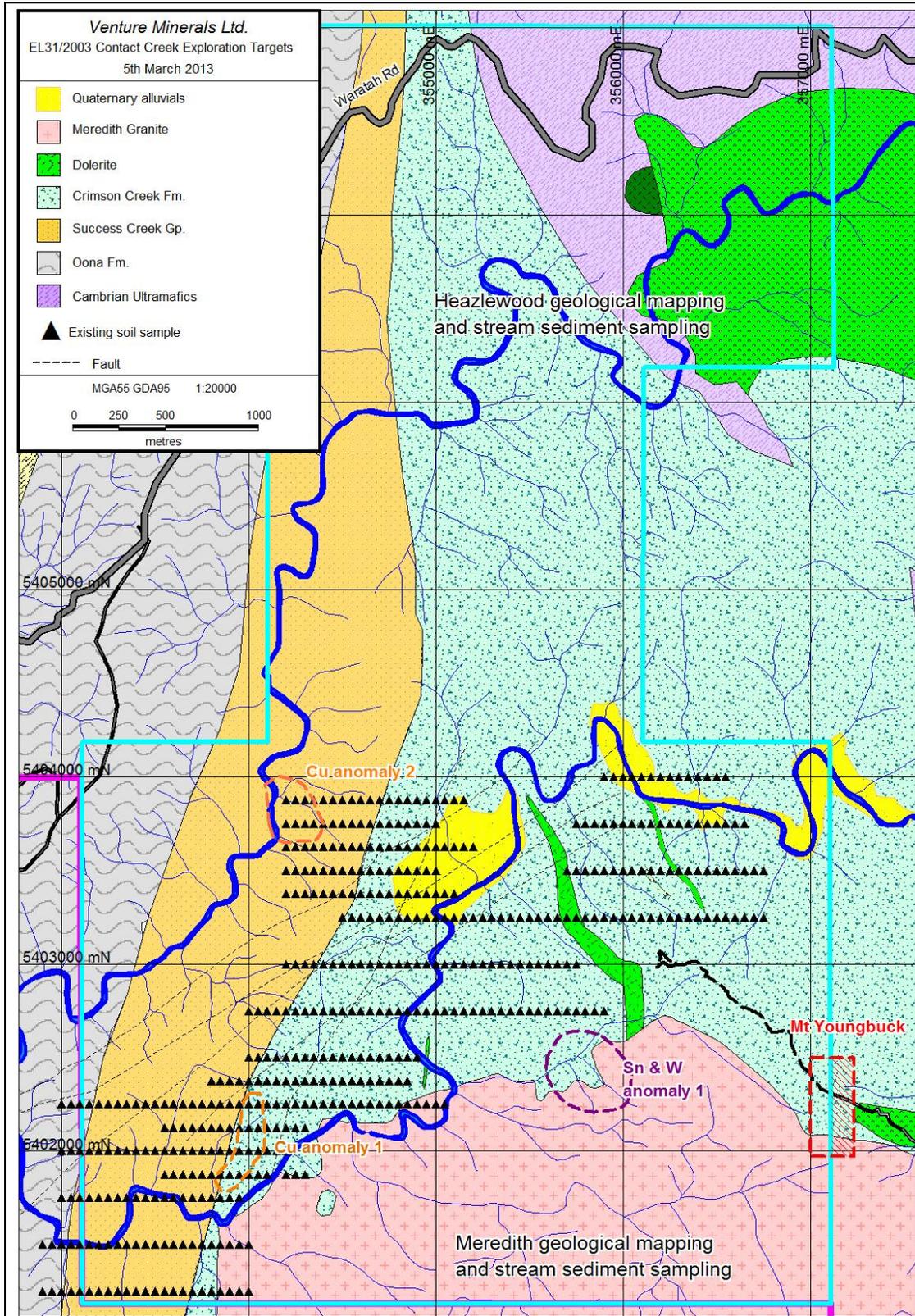
This work has led to the identification of four main target areas for Sn-W mineralization within EL31/2003, as shown in Figure 2:

1. Mt Youngbuck, a previously identified and drilled (Aberfoyle, 2 drill holes) amphibole+pyrrhotite+magnetite skarn with patchy scheelite mineralization. Venture's activities in 2013 indicate the surface extent of the deposit is just outside of the eastern boundary of EL31/2003 although it is quite likely the skarn dips into EL31/2003.
2. Contact Creek Sn & W Anomaly 1, low-level (up to 47 ppm Sn & 38 ppm WO₃) stream sediment may reflect presence of contact skarn(s), but follow-up sampling suggest small veins and greisens within the Meredith Granite are the most likely sources.
3. Cu Anomaly 1, a north trending c. 500 m by 100 m +120 ppm Cu soil anomaly, peaking at 249 ppm, which coincides with an interpreted fault between the Success Creek Group and Crimson Creek Formation immediately adjacent to the Meredith Granite just north of the Whyte River. The anomaly is closely

associated with calc-silicate (mainly pyroxene) alteration, and the copper anomalism may indicate the presence of a more constrained Sn and/or W skarn.

4. Cu Anomaly 2, a small cluster of Cu (up to 308 ppm) and V (up to 560 ppm) anomalous soils within the Success Creek Group c. 1.5 km north of the Meredith Granite. The V association is not considered encouraging for Mt Lindsay type Sn-W mineralization.

Figure 2 : Geology map showing Sn-W skarn exploration targets within EL31/2003



3. EXPLORATION COMPLETED DURING THE REPORTING PERIOD

No new exploration has been completed on EL31/2003 during the period covered by this report.

4. CONCLUSIONS

Four exploration target areas remain on EL 31/2003 but they require further work before drill testing. Venture significantly reduced its exploration budget in 2013 to focus on targets within a few kilometres of and / or with clear logistical synergies with its Mt Lindsay Sn-W-magnetite resources. Venture chose to withdraw from the joint venture with Bass on EL31/2003 in March 2014. Similarly Bass has been in financial difficulties since 2012 and has now decided to concentrate on Volcanic Hosted mineralisation in its' Mt Read Volcanic tenements. Consequently it has decided to relinquish EL31 / 2003.

5. EXPENDITURE

Table 1 Expenditure 1st March 2014 to 31st August 2014

March 2014 - August 2014		
Geoscientific Costs	Geology	\$2,287
	Geochemistry	
	Geophysics	
	Remote Sensing	
Drilling & Gridding Costs	Gridding	
	Drilling	
	Land Access Costs	
	Rehabilitation Costs	
	Feasibility Study Costs	
	Other Costs	\$1,574
	Admin Costs	
	Total - eligible	\$3,861

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